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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Martin Hirsch

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EXAMINER

HEVEY, JOHN A

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

07/23/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/540,071	Applicant(s) HIRSCH ET AL.	
	Examiner JOHN A. HEVEY	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 17-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16, 27 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/22/05, 10/17/06, 5/16/08, 5/16/08, 6/12/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I claims 1-16 in the reply filed on 5/16/2008 is acknowledged. The traversal is on the ground(s) that the invention is novel over the prior art, that cited prior art teaches away from the invention, and therefore the invention does not lack unity. This is not found persuasive because Schmidt clearly teaches the shared technical features of a process of producing metal oxide from metal compounds in a fluidized bed process. Therefore, these features do not define a contribution over the prior art and unity is lacking.

The requirement is still deemed proper and is therefore made FINAL.

New claims 27-28, drawn to the process of Group I are presented for examination along with elected claims 1-16.

Priority

2. Applicant cannot rely upon the foreign priority papers to overcome the rejection using Nuber et al. '465 below because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5, 7-11, 14-16, and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Nuber et al. (WO 2004/056465, please refer to US2006/0231466 for citations).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

In regards to claim 1, Nuber teaches a method for the heat treatment of fine-grained solids in which said solids are heated to a temperature of 50-1000C in a fluidized bed reactor, wherein a first gas or gas mixture is introduced from below through a central gas supply tube into a mixing chamber of a the reactor, the gas supply tube being at least partly surrounded by a stationary annular fluidized bed which is fluidized by supplying fluidizing gas, and that gas velocities of the first gas or gas mixture as well as the fluidizing gas are adjusted such that the particle Froude numbers in the gas supply tube are between 1-100, in the annular fluidized bed are 0.2-2, and in the mixing chamber .3-30 (see claim 1). Furthermore, Nuber teaches that in temperatures up to about 750 C the method can be used to produce oxides from aluminum hydroxide (producing a metal oxide from a metal compound)(see [0016]).

In regards to claims 2-4, Nuber anticipates the claimed particle Froude ranges (see Nuber claims 2-4).

In regards to claim 5, Nuber teaches the adjustment of the height of the solids in the fluidized bed such that the annular fluidized bed extends beyond the upper orifice end of the gas supply tube and that solids are introduced into the first gas or gas mixture (see Nuber claim 5).

In regards to claims 7-8, Nuber teaches where preheated gas with the admixture of an oxygen containing gas (a gaseous fuel) is supplied to the reactor via the gas supply tube (see Nuber claim 7).

In regards to claim 9, Nuber teaches air introduced into the lower region of the annular fluidized bed reactor (see Nuber claim 9).

In regards to claim 10, Nuber teaches a reactor pressure of .8-10 bar (see Nuber claim 10).

In regards to claim 11, Nuber teaches solids are suspended, dried and/or pre-heated in at least one pre-heating stage, comprising a heat exchanger and a downstream separator (see Nuber claim 11).

In regards to claim 14, the claim requires a range including zero. Nuber is considered to meet this limitation.

In regards to claim 15, Nuber teaches wherein after the heat treatment the product from the fluidized bed of the reactor is at least partly supplied to a cooling system, which comprises an arrangement of a number of cooling stages connected in series (see Nuber claim 12).

In regards to claim 16, Nuber teaches wherein the gas heated in a cooling stage is supplied to an upstream cooling stage, the reactor, the combustion chamber and/or pre-heating stage (see Nuber claim 14).

In regards to claim 27, Nuber teaches the use of aluminum hydroxide (see [0016]).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nuber et al.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome

by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

In regards to claim 6, Nuber teaches the use of fine grained particles with size of 3-10 microns (see [0014]). Nuber also teaches that the process may be used to form oxides from aluminum hydroxide (see [0016]). It would have been obvious to one of ordinary skill in the art to select aluminum hydroxide particles with a grain size from the portion of the overlapping ranges in order to maximize the efficiency of the oxidation process. Overlapping ranges have been held to establish prima facie obviousness (see MPEP 2144.05 [R-5]).

8. Claim 12 is rejected under 35 U.S.C. 103(a) as being obvious over Nuber et al. as applied to claim 11 above, further in view of Schmidt et al (US6015539).

Nuber fails to teach a second stationary fluidized bed and a second mixing chamber.

In regards to claim 12, Schmidt teaches a method of treating aluminum hydroxide in a fluidized bed process, and teaches a multi-stage process comprising a fluidized bed heat exchanger and a second fluidized bed reactor and mixing chamber (see claim 4).

It would have been obvious to one of ordinary skill in the art to modify the teachings of Nuber to include a second fluidizing bed and mixing chamber in order to maximize the efficiency of the process and reduce waste.

9. Claims 13 and 28 are rejected under 35 U.S.C. 103(a) as being obvious over Nuber as applied to claims 11 and 12 above, further in view of Okuno (US5269236).

Nuber teaches a cooling method comprising water cooled pipes but fails to teach the injection of water into the fluidized bed.

Okuno teaches a method of injecting water into a fluidized bed reactor in order to cool the exhaust gas (see col 2, ln 29-40).

It would have been obvious to one of ordinary skill in the art to substitute the cooling method as taught by Nuber with the injection of water as taught by Okuno in order to additionally prevent dust from accumulating on the interior surface of the fluidized bed reactor.

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10. Claims 1-5, 7, 9-12, 14-15, 17 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al (US6015539) in view of Hiltunen et al (US5505907) or in the alternative, Hiltunen et al. ('907) in view of Schmidt et al. ('539).

In regards to claim 1, Schmidt et al. ("Schmidt") teaches a process for producing aluminum oxide from aluminum hydroxide (producing metal oxide from a metal compound) comprising a step for feeding material into a fluidized bed reactor at 850-1000C (see claim 1) and further teaches the optimization of the operating conditions using Froude numbers (see col 2 ln 30 to col 3 ln 22). It would have been obvious to one of ordinary skill in the art at the time the invention was made to choose the instantly claimed ranges through process optimization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (see MPEP 2144.05 II(A)).

Schmidt fails to teach a fluidized bed reactor with the specific structure as required by claim 1.

Hiltunen et al. ("Hiltunen") teaches a fluidized bed reactor comprising introducing a first as or gas mixture from below through a gas supply tube into a mixing chamber of the reactor located above the orifice region of the gas supply tube, wherein the gas supply tube is at least partly surrounded by a stationary annular fluidized bed which is fluidized by supplying fluidizing gas and where the gas flowing through the gas supply tube entrains solids from the fluidized bed into the mixing chamber (see Figures 1-2).

It would have been obvious to one of ordinary skill in the art to substitute the fluidized bed reactor as taught by Schmidt with the fluidized bed reactor as taught by Hiltunen in order to reduce fouling and improve heat exchange.

In the alternative, Hiltunen teaches a fluidized bed reactor (as above) and a process of cooling comprising the supply of gas to a fluidized bed, entraining particles upwards, in which some entrained particles return to the fluidized bed (see col 2, ln 59 to col 3, ln 14). Hiltunen fails to teach producing metal oxide from a metal compound and utilizing particle Froude numbers.

Schmidt teaches a process for producing aluminum oxide from aluminum hydroxide (producing metal oxide from a metal compound) utilizing a fluidized bed process and further teaches the optimization of the operating conditions using Froude numbers (see col 2 ln 30 to col 3 ln 22).

It would have been obvious to one of ordinary skill in the art to modify the teachings of Hiltunen to operate a process of oxidizing a metal compound such as that taught by Schmidt in order to transform the initial particles into more useful and a more industrial applicable material (see Hiltunen col 1, ln 21-29).

It would have been further obvious to one of ordinary skill in the art at the time the invention was made to operate the process by the use of particle Froude numbers and it would have been obvious to one of ordinary skill in the art to choose the instantly claimed ranges through process optimization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (see MPEP 2144.05 II(A)).

In regards to claims 2-4, Schmidt teaches the optimization of the operating conditions using Froude numbers (see col 2 ln 30 to col 3 ln 22). It would have been obvious to one of ordinary skill in the art at the time the invention was made to choose the instantly claimed ranges through process optimization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (see MPEP 2144.05 II(A)).

In regards to claim 5, Hiltunen teaches that the upper surface of the fluidized bed may be arranged at a higher level than the top level of the duct and its edges so that solid particle overflow is entrained in the hot gas supply (see col 6, ln 17-45).

In regards to claim 7-9, Schmidt teaches a preheated fluidizing gas comprising oxygen (gaseous fuel) (see Example 1). Said fluidizing gas is introduced through the gas supply tube and would necessarily be located in the lower region of the fluidized bed reactor.

In regards to claim 10, the references are silent to the pressure of the fluidized bed reactor, however, Schmidt does teach the criticality of the reactor pressure (see claim 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to choose the instantly claimed ranges through process optimization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (see MPEP 2144.05 II(A)). One would have been motivated to do so in order to achieve the best heat exchange and oxidation of the metal compound.

In regards to claim 11, Schmidt teaches such a pre-heating stage (see claim 1).

In regards to claim 12, Schmidt teaches a multi-stage process comprising a fluidized bed heat exchanger and a second fluidized bed reactor (see claim 4).

In regards to claim 14, Schmidt teaches a process comprising at least partially introducing entrained material into a fluidizing gas mixing vessel producing a product mixture comprising partly calcined solids (see claim 1).

In regards to claim 15, Schmidt teaches a plurality of cooling stages connected in series (see claim 1).

In regards to claim 27, Schmidt teaches the use of aluminum hydroxide (see above rejection of claim 1).

11. Claims 13 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al (US6015539) in view of Hiltunen et al (US5505907) as applied to claims 11 and 12 above, and further in view of Okuno (US5269236).

Schmidt in view of Hiltunen fails to teach the injection of water into the fluidized bed for cooling purposes.

Okuno teaches a method of injecting water into a fluidized bed reactor in order to cool the exhaust gas (see col 2, ln 29-40).

It would have been obvious to one of ordinary skill in the art to modify the cooling steps as taught by Schmidt with the injection of water as taught by Okuno in order to additionally prevent dust from accumulating on the interior surface of the fluidized bed reactor.

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al (US6015539) in view of Hiltunen et al (US5505907) as applied to claims 1 above, and further in view of Misra (US4822592).

Schmidt teaches formation of aluminum oxide from aluminum hydroxide through a fluidized bed process but fails to teach the grain size of the aluminum hydroxide.

Misra teaches a process of forming alumina from an aluminum compound comprising a fluidized bed process and initial particle sizes of 1-20 microns (see col 2, ln 30-37).

It would have been obvious to one of ordinary skill in the art to modify the teachings of Schmidt in view of Hiltunen to use a starting compound of aluminum hydroxide having a grain size of less than 100 microns as taught by Misra, in order to better facilitate the oxidation reaction and produce a more valuable end product.

Double Patenting

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 1-5 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of copending Application No. 10/540376. Although the conflicting claims are not identical, they are not patentably distinct from each other because both disclose a process of heating metal compounds in a fluidized bed process, wherein a gas is supplied from below via a gas supply tube at least partially surrounded by a stationary fluidized bed, comprise overlapping temperature ranges and the same particle Froude numbers. Claim 1 of the copending application does not disclose that the "gas flowing through the gas supply tube entrains solids from the fluidized bed into the mixing chamber when passing through the upper orifice region of the gas supply tube" however, the application clearly suggests this feature, and such a feature would necessarily follow from the disclosed process. Claim 1 of the copending application does not disclose that the "gas flowing through the gas supply tube entrains solids from the fluidized bed into the mixing chamber when passing through the upper orifice region of the gas supply tube" however, the application clearly suggests this feature, and such a feature would necessarily follow from the disclosed process. Furthermore, it would have been obvious to one of ordinary skill in the art to select a titanium containing compound as the metal compound required by the instant

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application, as the use of various metal containing compounds are linked by the need for heat treatment processes in the form of roasting or calcining.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

15. Claims 1-5 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of copending Application No. 10/540435. Although the conflicting claims are not identical, they are not patentably distinct from each other because both disclose a process of heating metal compounds in a fluidized bed process, wherein a gas is supplied from below via a gas supply tube at least partially surrounded by a stationary fluidized bed, comprise overlapping temperature ranges and the same particle Froude numbers. Claim 1 of the copending application does not disclose that the "gas flowing through the gas supply tube entrains solids from the fluidized bed into the mixing chamber when passing through the upper orifice region of the gas supply tube" however, the application clearly suggests this feature, and such a feature would necessarily follow from the disclosed process. Furthermore, it would have been obvious to one of ordinary skill in the art to select a metal compound as a fine-grained solid required by the copending application, and suggests such a selection in copending claim 6.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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16. Claims 1-5, 7, 11, and 15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5, 7, 11, and 12 of copending Application No. 10/540436. Although the conflicting claims are not identical, they are not patentably distinct from each other because both disclose a process of heating metal compounds in a fluidized bed process, wherein a gas is supplied from below via a gas supply tube at least partially surrounded by a stationary fluidized bed, comprise overlapping temperature ranges and the same particle Froude numbers. Claim 1 of the copending application does not disclose that the "gas flowing through the gas supply tube entrains solids from the fluidized bed into the mixing chamber when passing through the upper orifice region of the gas supply tube" however, the application clearly suggests this feature, and such a feature would necessarily follow from the disclosed process. Furthermore, it would have been obvious to one of ordinary skill in the art to select a metal compound as a fine-grained solid required by the copending application, and suggests such a selection.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

17. Claims 1-5 and 13 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5, 9, and 20 of copending Application No. 10/540438. Although the conflicting claims are not identical, they are not patentably distinct from each other because both disclose a process of heating metal compounds in a fluidized bed process, wherein a gas is supplied from

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below via a gas supply tube at least partially surrounded by a stationary fluidized bed, comprise overlapping temperature ranges and the same particle Froude numbers.

Furthermore, it would have been obvious to one of ordinary skill in the art to select a metal compound as a fine-grained solid required by the copending application, and suggests such a selection in copending claim 11.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN A. HEVEY whose telephone number is (571)270-3594. The examiner can normally be reached on Monday - Friday 8:00 AM to 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jessica Ward can be reached on 571-272-1223. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. A. H./
Examiner, Art Unit 1793

/Jessica L. Ward/
Supervisory Patent Examiner, Art Unit 1793

